

COURSE NUMBER: FHWA-NHI-123002

COURSE TITLE: Scientific Approaches to Transportation Research

This course addresses professional and ethical practices for managing, conducting, and evaluating research programs and projects. Participants will learn about the critical elements in the research process, turning research objectives into research hypotheses, testing of the hypotheses, and evaluation of the results. The course will look at the scientific method as well as the management and handling of data as it applies to transportation research.

OUTCOMES:

Upon completion of the course, participants will be able to:

- Recognize the differences between applied, basic, and development research
- List the tradeoffs between the risk (cost) and benefits of engaging in research
- Identify the steps in the research process and sequence of scientific inquiry
- Discuss issues with experiment design, e.g., types of research investigation and principles of data collection
- Discuss how and why probability distributions are used in statistics
- Discuss hypothesis testing and Statistical Inference and apply linear regression methods
- Discuss when and how to apply common nonparametric statistics

TARGET AUDIENCE:

Transportation engineers, research managers, and researchers who are involved in the design, development and implementation of transportation research. Participants should have, at a minimum, a limited exposure to basic statistics and research practices.

FEE: \$460 Per Participant

LENGTH: 3.5 Days (CEU: 2.1 Units)

CLASS SIZE: Minimum: 20; Maximum: 30

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If you're interested in this course, you may also want to take advantage of other NHI structures courses.



132012 Soil and Foundations Workshop – Geotechnical and Materials
132014 Drilled Shafts
132021 Driven Pile Foundations – Design and Construction
132040 Geotechnical Aspects of Pavements – Geotechnical and Materials
132042 Design of MSEW and RSS
132078 Micropile Design and Construction